
MINUTES
HOUSE COMMITTEE ON EDUCATION INNOVATION
February 19, 2014

The House Committee on Education Innovation held its third meeting on February 19, 2014, at 1:00 p.m. in Room 643 of the Legislative Office Building in Raleigh, NC. Co-Chairman Craig Horn presided, and the other committee members present were: Co-Chair Susan Martin and Representatives Marcus Brandon, Brian Brown, Tricia Cotham, Nelson Dollar, Jeffrey Elmore, Edward Hanes, Marvin Lucas, Dennis Riddell, and Phil Shepard along with public members Sean Bulson, Karyn Dickerson, Ann Goodnight, George Little, and Anna Spangler Nelson. The Visitor's Registration Sheet is attached as Exhibit 1. The agenda is attached as Exhibit 2.

Chairman Craig Horn called the meeting to order at 1:03 p.m. and recognized the Sergeant-at-Arms staff serving the committee: B. H. Powell, Martha Parrish, and Carlton Adams.

Chairman Horn said this was the third meeting of the committee, and there would be two more before the short session begins. He reminded members that the committee's purpose is to examine and study innovative practices in education designed to improve student achievement leading to college and/or career readiness. In doing so, Chairman Horn said the committee would look at strategies that incorporate public/private partnerships, alternative learning environments, high-quality professional development for teachers and other school personnel, and community involvement. He said the committee may submit an interim report on its results, including proposed legislation, by May 1st; the final report is due just prior to the convening of the 2015 Legislative Session, which is next January.

The chair asked for a motion to approve the minutes from the January 22, 2014, meeting. Representative Cotham so moved, and the minutes were unanimously approved.

Chairman Horn welcomed Dr. Scott Ralls, President of the NC Community College System, for a presentation on innovation in North Carolina's Community Colleges.

Dr. Ralls said it is difficult to pick innovations among the 58 community colleges because he thinks they are all wonderfully innovative, but he selected a few for his presentation. (A copy of his PowerPoint presentation is attached as Exhibit 3.) He said he would cover three areas: 1) Technology Innovation, 2) Academic Success Innovation, and 3) Economic and Financial Innovation.

To bring in some outside reference for their innovation, Dr. Ralls said he also wanted to point out some places where the NC Community College System has been identified nationally as being innovative.

Dr. Ralls said one of the things unique in the Community Colleges is how they work together as 58 colleges, and technology innovation is a good example. He said they operate in North Carolina the largest computer information system in higher education, and all 58

Community Colleges in North Carolina are on a common backbone that integrates accounting including their payroll, their registration, and even their economic development projects. He said integrating it all into one system took a lot of work and investment, but it saves an extraordinary amount of money for the Community College System.

Dr. Ralls said another example of technology innovation is their Data Initiative. With their staff and the support and generosity of the Goodnights and SAS, he said they are developing what will be, in his opinion, the best advanced analytic data system of community colleges in the United States.

In terms of technology innovation, Dr. Ralls said he first wanted to talk about distance education. He said if you talk about innovation, particularly business innovation, Clayton Christensen's name is often first and foremost. He is a professor at the Harvard Business School and a guru in innovation who coined the term *disruptive innovation*, "a process by which a product or service takes root initially in simple applications at the bottom of the market and then relentlessly moves up and displaces established competitors." Dr. Ralls said Dr. Christensen has focused on education and the role of disruptive innovation in education, and he has written the book *Disrupting Class* about disruptive innovation in education where he talks a great deal about technology.

Dr. Ralls said a few years ago Dr. Christensen and his protégé Michael Horn and a few others wrote a paper called *Disrupting Colleges*, and in that paper he made reference to the North Carolina Community College System and its use of distance education as an example of disruptive innovation in higher education. And in that paper was a graph showing the exponential growth and also the predicted growth of distance education within the North Carolina Community College System.

Dr. Ralls said when he first saw this chart he was skeptical. It shows that by 2020, over ninety percent of their classes will be offered in distance education. He said it did not make sense, for example, that welding could be taught by distance education. But, he said, it is a matter of how you interpret distance education, and the notion of exponential growth in that regard just made no sense to Dr. Ralls.

He said this graph, however, is based on how we use technology because when you think of technology and distance education, you often think about automated education or on-line education, which is not automated at all. It is not just using the Internet; it's using the learning management system as the basis for all technology—the work done with hybrid or flip classrooms. He said his graph is really not that far off after all.

Just this past year, Dr. Ralls said more than one million North Carolina Community College students had course enrollments through distance education. He said there were 820,000 students last year in everything they do from small business centers to literacy and degree programs; but they had 1,144,000 enrollments in distance education. It accounted for 55 percent of all course delivery. Forty-six percent of that course delivery was fully online, meaning these were online courses. Sixteen percent of that 55 percent was in hybrid, which is the highest growth area in recent years. He said that is how distance education is being used to more

efficiently and effectively provide education through what you might think of as a flip classroom, where you can gain the knowledge outside the classroom and go into a lab or simulation and do the critical thinking and the application in a skills lab.

Dr. Ralls said in some courses every class is on the learning management system. He said they use Moodle and Blackboard in system-wide arrangements; and on their Information Highway, a course is being taught at one college while simultaneously being taught at three other colleges. So in looking at the graph, they are not far from where Clayton Christensen suggested they might be in 2010; and in thinking of how colleges may use this, it may be the case that 90 percent of all instruction is using distance education at some point.

As an example, Dr. Ralls said last week when the snow hit, Fayetteville Technical Community College, which has been an innovative leader across the country in the use of technology in community colleges, sent out a notice, flipped the switch, and for that period of time their students were making up their work through distance education.

About 15 years ago, Dr. Ralls said community college presidents and leaders were having discussions about developing online courses and how they would share those courses with each other to maximize their dollars. He said they created the Virtual Learning Community, and Dr. Larry Norris of Fayetteville Tech was the real leader for that idea. He said different faculty from different colleges partnered to develop online courses, which were shared through the Virtual Learning Community. He said over time that has evolved from just a focus on courses to learning objects that can be plugged into a class so that students can pull that up and use it. He said their learning objects repository is now the largest state learning object repository in the nation. There are five LEAs that are the beta testers this year, and the learning object repository will be the baseline of all community colleges and public schools for the repository of digital-content learning objects. He said they have 45,000 learning objects in their learning object repository, and anyone can go to their entry point at <http://explorethelor.org> and explore what is in there.

Dr. Ralls said the repository also contains all of the digital learning objects that they acquire. A good example is the CON Academy, which is free. Those are not technically learning objects, but they are pretty close, and they are embedded into the learning object repository. He said they also go out and acquire objects, and a good example is in nursing. They have acquired collectively through all of the colleges the digital content that nurses use in their simulation courses and built it into the learning object repository. He said there are thousands and thousands of objects that they have developed themselves through their 58 colleges that are all embedded into the learning object repository. He said what is unique is that it fully integrated into their learning management systems, Moodle Systems, and Blackboard Systems so a student can pull the objects from the learning object repository. He said it is quite an innovation that started locally through the Community College System and saves an enormous amount of money and provides a real benefit in moving forward.

Dr. Ralls said there are 50,000 hits a month for the learning object repository by students or instructors. Seventy-five percent of the objects in the learning objects repository are STEM.

The areas most used are math, physics, chemistry, and biology. It also sorts to show what is the most popular that instructors use.

Dr. Ralls said you don't often hear about it, but community colleges in North Carolina are very much leaders nationally in their use of technology.

Another area in which our community colleges have received acclaim is for their initiatives in student success. He said committee member George Little has been a leader in the Community College System. About four years ago, in Fayetteville, Mr. Little was one of the community college leaders present in October, 2009, when they made a declaration as a system that their strategic planning for the next four years would be focused on student success. He said they felt like they were doing a wonderful job in providing access to higher education for students, but their concern was that not enough of the students who were getting through their registration lines in August were crossing their graduation stages in May.

Dr. Ralls said their students are often low-income, working-class individuals with a lot of life issues that the schools could not control, but they felt there were ways they could step back and look at the challenges in their system and try to move forward as a system collectively with innovations to encourage more graduation and more completions. After making that declaration, they began a nine-month listening tour across all 58 community colleges asking for local innovations to further students' success. Their website entitled, successnc.org, shows all of the local innovations around student success. Dr. Ralls said they also asked the community colleges for their barriers to student success, and that started their process in looking at student success. Now four years later, thanks to the work of their colleges, they have collectively received a lot of acclaim nationally for their focus. The Brooklyn Institution and Rockefeller Foundation every year come out with State and Metro Innovations to Watch for the year. They pick ten innovations around the country of either cities or states, and in 2012 they picked Success NC, their collective focus, as one of the ten innovations to watch in the United States. He said they were the only education innovation that year. Just a few months ago, the U. S. Senate Committee on Health, Education, Labor and Pensions was starting the reauthorization of the Higher Ed Act, and they asked representatives of four higher education systems to come and talk about their innovations in higher education leading toward student success. The NC Community College System was one of those four along with Austin T, University of Maryland and the University of Southern New Hampshire. He said they have received acclaim and also great support from some of the representatives present and from the Bill and Melinda Gates Foundation. He said North Carolina is one of three states of focus for the Bill and Melinda Gates Foundation.

Dr. Ralls said the listening session led to adopting a statewide framework called the Loss Momentum Framework, which was originally put forth through the Gates Foundation, and it became a guide in all of what are now fifteen statewide efforts toward student success. He said they see the first semester entry point as key in getting college-ready students through their doors and on a structured pathway of progress leading to completion at the end of the day.

Dr. Ralls said approximately two-thirds of all the students who drop out of high school eventually drop back in through community colleges for GEDs or skills in other types of areas; but they begin to drop back out over time. A few years ago the General Assembly gave the

Community College System flexibility in using their literacy and basic skills funds, and they now have an innovative program called Basic Skills Plus, which is offered by 50 of their colleges. That means they can offer welding in Developmental Ed and a GED program combined in a very integrated way to produce much greater success.

Dr. Ralls said they have thousands and thousands of students who take college courses with the Community College System while they are in high school, and a few years ago they were struggling because they had lots of dual enrollment students. He said the problem was students often took those courses like he used to collect bubblegum cards, kind of at random without rhyme or reason. Now, he said, they have four very clearly defined university transfer pathways, two STEM pathways, and career technical pathways that the colleges work with the LEAs to define.

Dr. Ralls said Developmental Education is a big initiative for them. He said they completely changed the way they do developmental education because they saw colleges doing different things to try to work around the system they had in place, which wasn't really working. They use assessment differently, and they use diagnostic assessment to pinpoint what students need. They pulled math faculty together from across their colleges, and they redesigned the curriculum. They took out 30 percent because they had redundancies across courses, and then they created new, more modular formats so students can get the courses they need quickly, such as fractions, and get back out rather than being in as long as a year and a half of remediation. He said that has provided remarkable results.

Dr. Ralls said the Progress Initiative is how they structure course pathways. He said five colleges led a statewide effort that involved thousands of technical education instructors to redesign 80 technician programs into a now new 32- program matrix that is based on the context of stackable certifications. In other words, students earn third-party certifications along the way; and when they graduate, they will have much more opportunity because not only do they have a degree from one of the colleges, but they also have key industry certifications.

Mr. Ralls said on February 21 the UNC Board of Governors and the North Carolina Community College Board will meet at SAS to approve the new comprehensive articulation agreement. That agreement, he said, is based on the notion of pathways—real opportunity; and that started a few years ago.

As another initiative, he said they had five colleges, which they built into a cadre of nine, and now all of their colleges meet together in an effort called Completion by Design, a major effort supported by the Bill and Melinda Gates Foundation.

Dr. Ralls said all those initiatives he mentioned are being worked on by the colleges statewide, but many colleges have taken those efforts and put them on steroids at the local level. He said there are more and more local innovations coming out since they began to collectively work together. He said one of his favorite local innovations is at Central Carolina Community College and involves dual enrollment/career and college choice pathways. Central Carolina Community College has worked with their business community, philanthropy, and college resources to put college/career counselors in each of their eight high schools to work with those

students who often don't receive that kind of support to help them get into career pathways in high school.

In math, Dr. Ralls said Nash Community College has the MathTank, which is the flip classroom model for developmental education and now for all of math. Using technology as the platform, the instructors work around the MathTank, which is in a large room where students move at their own pace with technology, but with instructors coming in and out interacting with the students. He said Nash CC is seeing remarkable retention as a result.

At Central Piedmont, Dr. Ralls said they have MathSense, which is similar to MathTank, but they have also embedded this with how they work with their basic skills literacy programs. He said they put a floor in their developmental math because some students are so low they really don't need to be in developmental math; they need to start in the literacy programs so they don't eat up their financial aid. He said Central Piedmont has also led a system-wide effort during the past two years to redesign all of the math programs to make them more contestable with what students need in math.

Dr. Ralls said another innovation is NAM Certification Integration, which is a connection initiative led by Forsyth Tech. He said Forsyth Tech is one of the pilot schools, and North Carolina is one of the pilot states for the National Association of Manufacturers for building stackable certifications, particularly in the areas of manufacturing, and embedding that into the program; and they actually embed the delivery of the certification. He said Forsyth has been a leader and is working across the system in that regard.

Dr. Ralls said there is a general theme emerging from the colleges' work on students' success and that is the concept of moving from random course taking to taking pathways of courses to move forward rather than sideways. He said Columbia University has been a tremendous support and a research base for the NC Community College System. If you go to the Community College Research Center at Columbia where they reference statewide data, they are typically talking about North Carolina Community Colleges. Coming out of that is a focus on structured pathways because students, particularly unprepared students, don't do "optional" very well. Research suggests that individuals with many options do not always make good decisions and, therefore, it is important to present structured programs. While students like lots of options, at the end of the day, what they really like is getting through and finishing so they can get to their goals.

Dr. Ralls said the last area he would touch on was economic and financial innovation. He said Emily Derocco, Assistant Secretary of Labor for Training and Employment under President Bush and then President of the Manufacturing Institute, the educational arm of the National Association of Manufacturers, believes the NC Community College System is the national leader for structured pathways, stackable certifications, and combining redesigns of curriculum with financing strategy. He said this ties into their goals around supporting economic development and supporting students to be prepared for career pathways.

He said an example of local college innovation and of colleges working together is their success in the system of attracting over the last four years funds from the federal government for

a project called TAACCCT Grants. He said about a billion dollars were set aside to support community colleges for career pathways and designing programs that lead to jobs in a competition across the United States. He said no state had pulled down more resources from that than the North Carolina Community College System. It started about four years ago with Robeson Community College, and they were able to get an \$18 million grant from the U. S. Department of Labor that supported ten rural community colleges in North Carolina in advanced manufacturing. The next year Forsyth Tech, where the national center for bio-technology workforce is located, received \$14 million to lead a national initiative that also includes several North Carolina community colleges, in redesigning a bio-tech education curriculum nationwide.

Dr. Ralls said Pitt Community College received an NSF grant to be the Southeast leader from Texas all the way up to Maryland in delivering health information technology training. He said the North Carolina Community College System is the leader for health information technology training in the Southeast, and everything they have developed for that has gone into the learning object repository.

Dr. Ralls said Guilford Community College is leading the state consortium around aerospace where Kansas is the leader. And this past year Cleveland Community College received a \$23 million grant to lead a national effort with \$13 million just for Cleveland. They work very closely with the data centers called the 24-7 Mission Critical Group comprised of Google, Amazon, Apple, and big banks. They have big data centers, which require high maintenance skills and information security skills.

Dr. Ralls said one last innovation illustrates where innovation can tie together in supporting how they can prioritize resources. He said the last four years their focus has been on student success, and you can read about what they have attempted to do on their website www.successnc.org. He said one of those efforts was around developmental education and redesigning it so it is accelerated, it is more pinpointed, and it is modular. Through that process, Dr. Ralls said they knew that if they did this the right way it would lead to both effectiveness and efficiency. The effectiveness part is that there will be more students graduate and move through the pipeline. He said it will take a few years to see how that is playing out, but they see in the initial stages with Central Piedmont and with Nash that they are having much higher retention with their more targeted modules and diagnostics. He said they have learned in the past few weeks the efficiencies from that. Through that process, their enrollment in Developmental Ed in a one-year period of time has gone from 13.2 percent of all instruction to only 8.8 percent of their instruction bringing about a savings of \$18 million.

Dr. Ralls said a few years ago the General Assembly helped the North Carolina Community College System in being able to work in the high-end healthcare/tech education programs by not funding everything the same. They fund healthcare lab-based science at a high amount. They fund programs that lead to third party industry certifications at a higher amount based on three tiers with a 15 percent differential. He said they can now take the \$18 million savings from the Developmental Education innovation and create a fourth tier to hit what Governor McCrory was advocating for last year: the highest of the healthcare—radiography, dental, nursing and the highest of the technical education—the maintenance, the bio-tech, the

machining, the welding—the very high-end costly areas that lead to jobs where they are closing the skills gap and have higher wages.

Chairman Horn thanked Dr. Ralls for a terrific presentation and asked if the committee had questions.

The chair recognized Representative Shepard. Representative Shepard said Dr. Ralls mentioned the people who were taking courses online, and he asked whether any of our military who might be out of state or overseas are taking courses online.

Dr. Ralls said yes, and that is the reason Fayetteville Tech is such a leader along with other colleges like Craven. He said there are stories of servicemen taking courses on the battlefield. He said one of the reasons community colleges are so out in front on distance education is because of the convenience factor that their students need. He said their average age is 27, so their students are primarily working and don't have time to wait. He said that is particularly the case for our military.

The chair recognized Representative Hanes, and he told Dr. Ralls that he made an outstanding presentation. Also with regard to distance learning, Representative Hanes asked how much partnership they were getting with the four-year UNC system schools that have not gone as far down the road in distance learning. He asked how many of those schools were reaching out to the Community Colleges to partner with them or at least learn about their expertise in rolling out distance learning.

Dr. Ralls said they collaborate very closely on issues like the learning object repository and others. As an example, when he was President of Craven Community College, Dr. Ralls said ECU was one of the leaders in North Carolina in distance education, so they worked through partnerships with ECU on degree completion. He said ECU even had folks located in the Craven Community College campus. He said another good example was the work going on with the engineering school. He said they have had 2+2 engineering degree opportunities with the engineering school. At Craven, students had the opportunity through distance education to complete a four-year engineering degree from NC State without ever leaving the Craven campus. He said it was a combination of technology and the support that NC State provides in that regard.

Dr. Ralls said the articulation agreement to be signed on February 21st is important because it allows more assurance that everything they do has the opportunity to transfer.

The chair recognized Mr. Little who said he is a board chair at Sand Hills Community College and is also on the board of Western Carolina University. He said Sand Hills is far ahead of the university in online training. He said the average student at Sand Hills is taking five courses with three of them in the classroom and two online, and that is true throughout the Community College System. In the University System you will see most of them taking their classes in the classroom with very little online. He said the universities are now moving in that area, and East Carolina has been a leader; but some of the smaller schools have not. He said at the community college level, the online and the classroom courses are working to the benefit of

the students. He said there are a lot of students who are actually taking more online than they are in the classrooms.

Chairman Horn asked Dr. Ralls how they monitored and ensured the necessary rigor and quality level.

Dr. Ralls said the quality assurance happens a little bit at a system level but primarily at an institutional level. From a system level, he said the virtual learning community as well as the LOR are part of the assurance. He said they have three VLC centers that play a role, so everything they produce has that kind of quality control metric. And most recently, they have been looking at the advances and trying to determine how to move forward in incorporating e-textbooks into this because you can have lots of variables. He said local institutions were early adopters of distance education, and it has been a lesson for all community colleges. He said in his opinion you can have the greatest variance of instruction with distance education, and some of the best instruction he has ever seen is through distance education because students are not afraid to ask questions or interact when they are anonymous. Instructors who are very good at pulling our participation can create some of the most dynamic teaching. He said he has also seen the worst education where someone may just be posting and they never interact with students. Dr. Ralls said community colleges have learned as early adopters that they have to monitor quality much more tightly with distance education than you do even with classroom instruction because it is easier to have a lower bar, just as there are also opportunities to be higher.

The chair recognized Representative Hanes. He asked Dr. Ralls about the 2+2 program that he described where the student never left the Craven campus to get the NC State degree. He asked whether the student paid the community college tuition for that four-year period or did he pay the four-year college tuition, or was there some mix of the two.

Dr. Ralls said you see a lot of the 2+2 opportunities now. He said while the students are taking community college courses, they are paying community college tuition. When they are taking university courses, they are paying university tuition; and that is one of the ways in which universities and community colleges work together to create that seamlessness.

The chair recognized Representative Brown who said he wanted to piggyback on what Rep. Horn said about the quality assurance. He asked if there were any real efficacy data from the employers as it pertains to distance learning. Are they getting a better product, are they getting the same product, do they have concerns or tweaks?

Dr. Ralls said he was not aware of ever having an employer say there was a problem and their identifying it as distance learning. He said a lot of the courses where you may see distance learning as fully online are going to be more of what they would call general education courses. The workforce courses, he said, are such hybrid courses that you would not really notice. He said you would see this with math as well in the evolution of the flip classroom. The flip classroom, in Dr. Ralls opinion, gives the opportunity for efficiency, but even more important, effectiveness. It is a much more effective use of resources for a student to go and use technology at night. It is not as effective for an instructor to stand in front of a class and read to someone and point out for someone what they can get online. Nursing is a great example. At Pitt Community College

students can get the information they need through technology, and then they can come into a nursing simulation lab and use simulation and then have a critical thinking program. Dr. Ralls said employers probably don't notice it, but he thinks in many cases it is leading to much more effective critical thinking opportunities in workplace areas.

As a follow-up comment, Representative Brown said he loved hearing about all the positive things in his home district—ECU and Pitt Community College.

The chair recognized Co-Chairman Martin for the last question to Dr. Ralls. Representative Martin said we all have a lot to be proud of with our Community College System. In looking at the different tiers, she asked whether there are programs where we are not meeting the needs? Are there students where programs are not matching up? Are there things you wish you could do in addition to all the great things that are being accomplished?

Dr. Ralls said their focus on tiers is about closing the skills gap. When he was president at Craven, Dr. Ralls said he needed to expand their machining program to support the expansion at Bosch and Siemens and Fleet Readiness Center East, but he also had the hospital who really wanted them to expand nursing, start medical assisting, and do radiography. He said the problem was those programs are high cost because the instructors are highly marketable and the classes are typically smaller. He said the tiered funding does not dictate to a college what it can offer, but it gives additional resources to offer those programs, which, by necessity, are job-driver programs but have higher costs. In the years when they were flat funded and their per-student funding was going down, it was the technical that were often going by the wayside because they also struggled with student interest in that regard. Now, with tiered funding they can protect those programs and give colleges more flexibility to make those available.

Chairman Horn thanked Dr. Ralls and told committee members to feel free to contact Dr. Ralls directly; and if they did follow up, he asked them to let the rest of the committee know if there is something they should be aware of.

The chair welcomed the next speaker, Alisa Chapman, Vice President for Academic and University Programs, The University of North Carolina, General Administration. A copy of Dr. Chapman's presentation is attached as Exhibit 4.

Dr. Chapman thanked the committee for having her back and said she and her colleagues would cover three topics. First, she said they would highlight some of UNC's teacher quality research, their latest teacher portals analysis. She recognized Tina Patterson and Kevin Bastian, who were present at the meeting and were lead researchers on this particular analysis. She said this would be a very high-level overview, and she said they would love to come back at some point to share more detail.

Dr. Chapman said the results of this research leads to better understanding of the need and importance for supporting beginning teachers as well as how to best support those novice teachers. She said the committee would hear from Elizabeth Cunningham about the North Carolina New Teacher Support Program. She said some of their instructional coaches that are associated with that program were also present at the meeting.

How is the University using the research they are pursuing to improve the preparation of teachers? Dr. Chapman said, in fact, the teacher portals analysis is just one part of a far more comprehensive agenda of research around teacher quality that they pursued. She said the committee would hear from Michael Mahr about the Ed Teacher Performance Assessment (TPA) Pilot that they have underway across the University System. She said Michael Mahr is a colleague in the College of Education at North Carolina State University, and accompanying him was Dean Jayne Fleener, Education Dean at NCSU.

Dr. Chapman said it may not surprise the committee to know that teachers are the most important educational resource that can be controlled by our schools. She said it may surprise members of the committee, however, to know how much the effectiveness of these teachers vary. She said teacher effectiveness is the most important resource affecting educational achievement that can be directly influenced in our schools. She pointed to a graph that depicts teacher effectiveness in elementary school mathematics. Students with teachers performing at the 90th percentile have the equivalent of 100 more days of schooling than students with teachers performing at the 10th percentile. She said teacher preparation is one way to boost teacher effectiveness. *But how different are the teacher preparation programs that are North Carolina's constant supply sources of teachers?* Dr. Chapman said that is really what this portals analysis tells us more about.

Dr. Chapman pointed out the next graph that shows the routes of preparation that supply teachers for our public schools in North Carolina. She said in 2011-12, North Carolina employed 95,543 teachers across the state. She said this number is much lower than two years ago; in fact, she said it is down by about 7,000 from the last portals analysis in 2012.

Dr. Chapman said UNC-prepared teachers represent about 35,000 teachers employed in the workforce here. Teachers prepared out-of-state represent about 30,000 employed teachers. Alternative entry teachers represent about 15,000 teachers in North Carolina's employed workforce. Teach for America-prepared teachers represent about one-half of one percent of our teaching workforce in this state, or 480 teachers.

Dr. Chapman pointed out the next visual, which was a pie chart showing that 36.6 percent of North Carolina's employed teachers were prepared by UNC institutions, and there are 15 teacher preparation programs across the University. She said just over 63 percent of North Carolina's employed teachers were prepared by all of those other portals or routes of preparation that this analysis has identified.

Dr. Chapman mentioned just a few selected characteristics of UNC System-prepared teachers. She said 83 percent of them are female, 15 percent are minority, the average years of teaching experience is 12 years, just over half of them are employed in K5 to K8 schools, 18 percent teach in middle schools, and about 26 percent teach at the high school level.

A few comments about the UNC teacher preparation pipeline: Dr. Chapman said most notable from the next slide is that enrollment in UNC education programs at the undergraduate and graduate levels combined is down by about seven percent. They took a look at the fall

headcount in 2012 and a snapshot look at the fall headcount in 2013, and results are shown on the graph.

Two years from now, Dr. Chapman said the enrollment decline will impact our productivity output because these teachers have to be prepared; it takes them a while to get through the pipeline. She said less than 4,500 new teachers eligible for an initial license will be coming out of the pipeline a couple of years from now.

Highlights about findings. Dr. Chapman said they set out at the onset of this particular analysis to answer the question: How does the performance of teachers prepared by the UNC System compare to the performance of teachers who enter North Carolina's classrooms with other types of preparation? For example, out-of-state prepared teachers, Teach for America teachers, or alternative entry teachers. For this particular analysis, Dr. Chapman said Tina and Kevin analyzed almost three million test scores. One-and-one half million students were a part of the analysis as were close to 30,000 teachers with less than five years of experience. She said they used five years of data in this particular analysis from 2007-08 through 2011-12, and value add effects were calculated.

To summarize, Dr. Chapman pointed to a summary chart of the value-added findings of their teacher portals analysis. The comparison or reference group here is UNC-prepared teachers in aggregate. This is simply a comparison count displayed in this particular chart. The first column represents the portals that Dr. Chapman had been referencing—North Carolina private university institutions across the state, out-of-state prepared teachers, Teach for America, visiting international faculty, and alternative entry. She said the second column identifies the number of comparisons where teachers were less effective than UNC-prepared teachers, the third column identifies the number of comparisons where teachers were more effective than UNC-prepared teachers, and the fourth column identifies the number of comparisons where there were no differences than UNC-prepared teachers. So, for example, in the fourth column down, Dr. Chapman said visiting international faculty (VIF teachers) are less effective in one of their comparisons to UNC-prepared teachers, they are more effective in two comparisons, and they are no different in six comparisons.

Dr. Chapman said the next slide gives a little bit more detail, and you can look by grade level in this particular analysis—elementary, middle and high. She said you can also look by subject in the first column. For example, this chart shows that in elementary school reading there are no groups that are less effective than UNC-prepared teachers (the reference group). However, VIF teachers are more effective than UNC-prepared teachers in elementary school reading. In middle school reading, only Teach for America teachers are more effective than UNC-prepared teachers. And, in high school English, no group or portal is more or less effective than UNC-prepared teachers. She said for one more example, in high school mathematics out-of-state prepared teachers, VIF teachers, and alternatively-prepared teachers perform worse than UNC-prepared teachers. Teach for American teachers perform better.

How long do teachers stay at 3-year and 5-year benchmarks by portal? Dr. Chapman said of teachers prepared by The University of North Carolina and private and independent colleges and universities across the state, about 85 to 86 percent persist for at least three years.

Approximately 75 percent of these teachers persist for at least five years. About 74 percent of out-of-state prepared teachers persist for about three years, and only about 57 percent of them persist for five years. About 75 percent of alternative entry teachers persist for three years, and 57 percent persist for five. Thirty-one percent of Teach for America teachers persist for three years, and only 10 percent persist for at least five years. Dr. Chapman said difficulty in retaining teachers is a leading factor in addressing the teacher shortage both at the state and national level.

The next chart takes a look by portal at first-year teachers in North Carolina, and Dr. Chapman said that just over six percent of all teachers are in their first year of experience, which is a higher number than any other year of experience. And, this is the teacher's least effective year. Twenty-seven percent of our employed teaching workforce is in their first five years. She said first-year teachers are also disproportionately represented in North Carolina's lowest performing schools.

Next, Dr. Chapman pointed out a chart that represents the modal years of experience—the most frequently occurring number. It shows that just over six percent of teachers are in their first year of teaching (27 percent in their first five years), and only 30 percent of our employed teachers are in their most effective years. Fifty percent of those teachers in their first five years leave within the first five years. The overall cost of teacher attrition, that is preparation, training, recruitment all together in aggregate, has been estimated in national reports to be as high as \$7 billion annually at the national level and as high as \$84.5 million in North Carolina alone. Beyond the monetary costs, Dr. Chapman said the high turnover leads to losses in teacher quality, school stability, and student achievement. She said reducing turnover costs much less; it makes good sense to invest in support for novice teachers. She said it is simply not enough for North Carolina to recruit highly-qualified candidates and place them into the schools where they are needed most. North Carolina needs an evidence-based comprehensive system to retain these highly-qualified teachers. The North Carolina New Teacher Support Program is helping to address this issue for our state. She said the committee would hear from Elizabeth Cunningham about that program.

Ms. Cunningham thanked the committee for allowing her to share some information about the North Carolina New Teacher Support Program. She said she serves as the director of the program and was happy to have some other members of the team with her who work with the teachers.

Ms. Cunningham said the New Teacher Support Program offers support to beginning teachers in the state's highest need schools including about 500 teachers in counties which members of the committee represent. She said their goal is to offer high-quality and on-going support that allows teachers in their first years of practice to develop their skills, to impact their students, and also to remain in teaching. During these first years, she said they offer three components to their programs: an institute that allows them to orient to the classroom, individualized coaching in their schools, and professional development that is aligned with that support.

Ms. Cunningham said to get a little sense of where their program is currently located, this is their second full year of implementation and over that time they have gone from first serving

35 teachers to 450 teachers in their second year; and they are currently serving 1,150 teachers in 120 schools in 29 school districts. She said their program is administered through the university in the community that is closest to the school and district that they serve. She said that allows them to best use the knowledge of the community that university offers and also to work with existing partnerships that have been developed, and to use the knowledge and skills of those university partners and the faculty to help them in their service. She said they work through East Carolina, UNC-Charlotte, UNC-Greensboro, and also have a program that is regionally based at the Center for School Leadership Development in Chapel Hill.

Ms. Cunningham said the components of the program were determined by a group of partners through the University and also using research and the best lessons of experience of organizations like Teach for America that have done this work with success. The institute that they offer includes a few days in the region to allow the teachers some orientation to where they live, and then they offer five days to each of their first-year teachers to provide them the essential skills that they will need in their classrooms—management, curriculum, an opportunity to be with their teachers and to understand the communities in which they will be teaching, and time to spend with their coaches.

Ms. Cunningham said they think their instructional coaching is the core and heart of what they do, and they hear from their teachers that it is also what makes it special for them. She said their coaches last year completed over 15,000 in-person visits with their teachers. She said the coaches are able to support the goals of the school and be there for their teachers in an independent and confidential relationship. They can provide support for all aspects of a teacher's needs and then follow up with him or her. She said each teacher is provided six days of professional development—some during the school days, some on the weekend, and some virtual.

Ms. Cunningham said there are two particular benefits. Teachers are able to get information, and then coaches can go back into the classroom with them and observe, help them plan, help them implement, and then follow up. She said this is a cycle you don't usually find in professional development. And, the professional development has some elements that they are able to discuss with their districts and schools and pre-plan, but it also allows for school personnel, coaches, and teachers to add to the training during the course of the year. She said many of their school leaders and teachers comment that it is the one opportunity where they get to have input into the kind of training they are able to receive.

Ms. Cunningham said they have some early program results from last year and are anxiously awaiting the rest. She said they have very positive results from teachers who attended their institute. A vast majority reported to the independent evaluation team that their experience with the instructional coaching and professional development was positive as they compared it to the other support that they received from other providers. She said the instructional skills of their teachers are improving, and they see very strong retention rates both in the state, in the school, and in the profession for their teachers.

Dr. Alisa Chapman returned to the podium with the question: *How is the University using their research to improve the preparation of teachers in UNC schools, colleges, and departments*

of education? She said one important effort is a focus on student teaching through their Ed TPA (Teacher Performance Assessment) Pilot.

Why focus on student teaching? Dr. Chapman said this is where prospective teachers show what they really can and cannot do in a real classroom. She said this where they can make objective assessments of a candidate's performance, and this is also where they can use assessment results to help improve their curriculum and their preparation programs back on their campuses.

For instance, where do they teach the things that these prospective teachers cannot do well? And, how can they improve those courses and experiences so that they get better, improved outcomes? Dr. Chapman said this pilot is not just about working with prospective teachers and helping them to improve. She said the data and information is also being used to help them improve the curriculum and enhance the teaching of the faculty within their schools of education. She said Michael Mahr would speak about the Ed TPA pilot.

Mr. Mahr said as they think about evaluating teacher evaluation programs and future teachers, they look at it through a two-part strategy. He said as you think about what happens in classrooms, there are three critical components: planning, instructing, and assessing students. In thinking about how teachers or pre-service teachers or perspective teachers go about doing that, can they, in fact, plan solid lessons? Can they carry out these lessons in real classrooms in real situations with real students? And, can they use the assessments that they collect as part of this instruction to then further impact student learning? He said there is a second part that is critically important to this, and that is the improvement of teacher preparation program themselves. So, he said they think about how, as teacher educators, can they use an instrument to better improve the practice of their programs and improve their own teach preparation programs.

Mr. Mahr said it is really important for them to find a valid and reliable instrument that does these basic functions, and that is one of the things the Ed TPA does for them. He said the Ed TPA is composed of three critical pieces that candidates develop, and they are planning, instructing and assessing. They want to ensure that they have an instrument that not only predicts some of those things for them but provides them with actionable data.

So what kind of data can they take back to their program and then implement in improving the work that they do? Mr. Mahr said they look for results that predict teacher effectiveness as well as whether or not those scores align with what they are trying to do. He said the Ed TPA itself has been piloted in twenty-five states, and North Carolina is one of those states. He said they are part of a seven-campus consortium who has begun to take ownership of some of their own evidence-based program improvements, and part of that is to identify where they might find gaps in performance. They then take that data to their programs in actionable ways to help improve the performance of their candidates. He said they prepare more than one-third of all the teachers for North Carolina, and they are a critical pathway. He said being able to do that and coordinate with their partners to help pilot and implement some of these different measures is critically important.

Dr. Chapman asked if they could answer any questions from the committee.

The chair recognized Representative Elmore, and he asked if there has been any analysis on the placement of the actual student teaching experience or building up to the student teaching experience. He said as the programs are structured now, many times you will have a student who is going through a whole preparatory program, is in the last semester of college, hits the student teacher experience, and is absolutely miserable. He said that can kick them off to another two years in college to deal with a different degree or move to a different path. He asked if there were any consistency across the University with pre-lab type of experiences like internships.

Dr. Chapman said that was, in fact, one of the reasons that they selected to focus on the student teaching experience. She said most of the schools of education in the UNC system have year-long internships. While student teaching has specific requirements required by the State Board of Education in terms of consecutive days of teachers being in the classroom, most of their institutions have year-long internships that graduate a prospective teacher's involvement and engagement in actually teaching and taking control of that classroom. Prior to that year-long internship, she said they have field experiences and clinical experiences where the prospective teachers are out in the partnership schools learning how to do assessments of students in reading, learning how to teach science and mathematics in the classroom, and working with those master teachers.

Dr. Chapman said she sees teacher preparation in three primary components. The first is recruitment and selection into their programs. The second is the curriculum and the preparation. The third is the student teaching. She said the work they are doing is helping to impact all three components.

As a follow-up question, Representative Elmore asked if Dr. Chapman saw any hurdles on the beginning part of the entry into the colleges of education where there may be something in place that is a hindrance to students who would be of high quality in the education programs.

Dr. Chapman said they do an annual analysis where they compare teacher education candidates to other majors at UNC institutions. They look at high school GPA, the culminating GPA at the end of a four-year degree, and ACT scores and make comparisons. They find that their teacher education graduates on most of those academic factors are doing better than the average of all the other graduates. She said, however, that they still have room for improvement, and they are focused in their research to look at what is the right combination of selection criteria and recruitment processes, not only academic, but the non-cognitive components of that selection. She said they know from best practices in talking and working with Teach for America, that the non-cognitive components of their selection process are a big part of that particular program. She said once they find the right combination, they will look at changing their policies within the UNC system.

The chair recognized Representative Haynes for a question. Representative Haynes referred to the slide entitled, "UNC Teacher Preparation Pipeline." He said the slide demonstrates a decline in teacher preparation across the UNC System, but he noticed a few schools that actually have an increase. He asked what is going on in those schools that is driving the increase.

Dr. Chapman said they are trying preemptively to address the issue of declining enrollment as best they can. She said that particular graph depicts the aggregate of undergraduates and graduates, and when you break it out it will look different at the undergraduate level than at the graduate level. She said some of it has to do with the array of licensure programs that the particular institution offers, so not all of their schools of education are going to produce the 700 or 800 teachers that UNC-Charlotte or East Carolina University or Appalachian State University or North Carolina State University will produce. She said UNC-Asheville is a much smaller producer of teachers, but it is critically important to Buncombe County Schools. Again, she said some of the variation in numbers where there is a positive versus a decline in enrollment has to do with the kind of licensure program that is being offered.

What are they doing to address the decline? Dr. Chapman said they have initiated a process to update their projections of what supply and demand needs are. She said they are working with teacher recruiters on their campuses in their colleges of education and with the deans of education to update enrollment growth projections. She said they have done that before with remarkable results. The last time they had a crisis, they initiated this process, and they increased the productivity of newly-licensed teachers by over 53 percent from their base year. And, they built accountability into that process. She said they are re-engaging in that process and updating their data. Also, she said they are working with the recruiters to make sure they have the appropriate teacher recruitment plans on every campus that follows what the current market research says about how they should be recruiting those individuals and from what areas. In addition, they have the teacher quality data because they want to strengthen their program and ensure that they are supplying teachers in the highest need licensure areas: math, science, middle grades, and special Ed.

The chair recognized Representative Shepard for a comment. Representative Shepard said he noticed on the same graph that UNC-W had an increase. He said they partner with the local community college, and students that live in the Onslow County area can stay at the community college and take most of their courses before taking a few toward the end at UNC-W. He said there are probably other community colleges across that state doing that, and it is a great program.

The chair recognized Mrs. Nelson for a question. She asked Dr. Chapman what conversation, if any, is being had at the University about raising admission standards for schools of education. She said it catches her attention that there 15 programs, almost one on every campus. Mrs. Nelson said in Finland their selectivity is along the lines of selectivity for being a doctor.

Dr. Chapman responded that all of their schools of education are nationally accredited, so they have a high benchmark and threshold of acceptance in upper divisions to meet those national accreditation standards, which is a Board of Governors' policy. She said those national accreditation standards are being updated to represent even higher benchmarks of achievement. She said they are also, as mentioned earlier, working to look at that recruitment and selection—both the academic factors and the non-cognitive components that are a really important part of selection into their program. She said they think their analysis this year will give them the

evidence and a foundation of information to make decisions about how to increase the upper division requirements for teacher preparation.

The chair recognized Mr. Little for a question. Mr. Little asked whether most of the people who are going through the University System in Education coming in as freshmen, or are a lot of them coming in as juniors. And, what is that percentage breakdown?

Dr. Chapman said she did not have the percentage breakdown with her, but of the 4,500 teachers that the UNC System prepares, about 65 percent of them are prepared through their traditional undergraduate preparation program. Other teachers come in through their Masters in Teaching (MAT) Program, which is a graduate-level initial licensure program. She said that is an area where they have seen a huge decline because of compensation issues that have transpired over the past year or so in the state. She said they also do alternative licensure that is non-degree tracked. She said they work with teachers to route them through the appropriate coursework that they need to be recommended for a license, but they aren't necessarily pursuing a degree. She said those would be the three primary areas, and she said she would be happy to follow up and provide more detailed information.

Chairman Horn recognized Superintendent Bulson, who said Dr. Chapman talked about the importance of the non-cognitive skills in their candidates for the teaching program. He asked if there were anything she could share with K-12 education about how they might understand those non-cognitive skills. He said, if you can measure them in your entry process, how are you measuring them? How could K-12 possibly be teaching them better?

Dr. Chapman said that was part of what their research agenda item this year is about; it is to learn more about that. She said Superintendent Bulson touched on a point that is really important: they are very hard to measure. She said Western Carolina University's College of Education has been doing some of this in recent years, so they pulled them in to help inform the UNC System as they substantiate some of their analysis and research this year. She said they know they need to do a better job, but they want to work with K-12 on their research. This should not be research that the University is doing not in partnership with K-12. In fact, she said they could not do the research if it were not for K-12. She said they have great partnership with the Department of Public Instruction and the State Board of Education that supply them with the data and information to do their analysis, and the Department of Public Instruction K-12 teachers are in many of the work groups and processes of things that she mentioned; in fact, they are part of the their Ed TPA pilot, sitting at the table with them learning about this work.

Chairman Horn thanked Dr. Chapman and said she could see there was a lot of interest in her presentation because the committee had heard in previous meetings of the importance of highly-qualified teachers and what that means to students. He said the most innovative thing that the committee could come up with would be figuring out how to identify, retain, attract, encourage, support, and keep highly-qualified teachers in the classroom. He said if they did nothing else in this state, it would blow the lid off student achievement.

Chairman Horn said speaking of highly-qualified teachers, he was happy to welcome on behalf of the committee a panel of 2012-2013 Regional Teachers of the Year. He asked them to

briefly introduce themselves telling where they are from, where they went to school, and how long they have been teaching. He said he would ask them to address two questions: (1) What is the most effective innovative practice you've seen implemented and why is it effective? (2) What is the biggest impediment to innovation?

Pamela Mills said she represented Region 1, Northeastern North Carolina. She is currently teaching in Dare County, First Light Middle School, eighth grade, Language Arts. She graduated from Appalachian State and has been teaching in North Carolina for 44 years.

Ms. Mills said the most innovative activity she has seen in education today is that of the teachers who are constantly looking for newer and better ways to do what they have to do on a daily basis. She sees teachers who collaborate and research on the best way to address the new Common Core standards, teachers who teach and learn how to use computers in their classroom on a daily basis, and teachers who are excited about the capabilities of the PowerSchool system. She said teachers are awed by all the advantages that they have today with technology in the field of education. She said that in elementary school in her district, students are early on given a Google account which they can continue throughout high school. This allows for collaboration with their peers and extended-day learning with the teachers. The one-on-one or a laptop initiative will continue that type of collaboration among peers.

Ms. Mills said distance learning is being used in the classroom in elementary grades in one school in her district. With Window to the World the students take virtual field trips to other countries and to other places. On the middle school level, they continue to have Google accounts but are taught how to use them in a more sophisticated way with e-projects and portfolios. She said they have an ingenious math teacher who uses the geometer sketch pad and the smart notebook, and as students are given problems to solve he records step-by-step what they are doing so that when he is looking and listening at their work, he knows exactly the point of confusion for each individual child as well as their thought process.

Ms. Mills said one of their Social Studies teachers uses Skype to visit an ancient Roman Hadrian's villa. Each child can become an avatar and choose what citizen they are, and in so doing they learn all the behaviors of that society as well as the history. Another Social Studies teacher is doing the North Carolina Stock market game in partnership with state legislators. In the music department, she said a band teacher just received a grant allowing students through the use of technology to perform, and their work to be assessed so that they know exactly where they are missing the notes. At the high school level, authentic assessment is being put into play, and the only downside is that they are not measuring their knowledge through authentic assessment as a standardized means of testing.

Ms. Mills said they have a program in her district where AP Biology and Chemistry students are actually field researchers for NOAA (National Oceanic and Atmospheric Administration). They go to the beach every day before and after school to take measurements of plankton in the water and then go back to their classroom lab and report their findings to NOAA. They are actually their field researchers. Last year they won a competition and were the first high school team to be published in a renowned science magazine. They were invited to the Oceans 12 Conference and presented to professional scientists and researchers. Ms. Mills said

this is excellent authentic assessment at its highest. She said another example was the remotely operated vehicle that kids developed, designed and built. They were given a task to connect two cables at the bottom of the ocean at the base of a volcano in Hawaii totally by remote control. They won. Again, Ms. Mills said she thought this was authentic assessment at its highest.

Ms. Mills said there is a program called First Flight Furniture that occurs during the day at school. Kids in art classes design furniture pieces, and that design then goes to the drafting department where they draw up the scale for it to be built. The plans go to the construction classes who actually build the beautiful pieces of furniture, which are then auctioned off. In addition, Ms. Mills said there is a calculus teacher who works in partnership with NASA doing aero-space research using calculus.

Ms. Mills said that district-wide, they cannot afford to send all their teachers out for training so they have their own Dare to Share Technology Conference where they invite DPI presenters, guests and teachers to present. It is a two-day conference where they teach each other the innovations that they are using on a daily basis.

Ms. Mills said she felt impediments to innovation are the time to develop the new standards and innovations and the financing. Most of the innovations she was talking about were sponsored by grants or donations, and there is no guarantee that these things will continue.

Ms. Mills said another impediment is that the standardized tests don't measure the authentic assessments. She has concern for teachers who are teaching real world assignments because those things are not tested in the fashion that they are taught.

Carrie Morris said she represented Region 2. Her father was military, and she came to North Carolina to go to Elon College. She began teaching in Alamance County and now teaches in Onslow County, where she has been for 17 years for a total of 18 years of teaching. She received her master's degree through the program Mr. Shepard was talking about through UNC-Wilmington, but she had her classes on Camp Lejeune Military Base through Coastal Carolina Community College. She said she teaches elementary school.

Ms. Morris said that she would speak directly about collaboration. She said collaboration is truly a key to improving innovation in our schools. She said there is not one single teacher who can say that he or she caused learning alone. She said that building relationships is truly the most important piece to improving education, whether it's students- teacher relationships, teacher-teacher relationships, teacher-administration and so on.

Ms. Morris said a lot of exciting innovations are related to collaboration. She said PLC's or professional learning communities are truly amazing. When she first started teaching, they were given money to go out to workshops and professional conferences, but money is not there anymore. Therefore, the teachers and administrators have brought in guest speakers. She said teachers have collaborated to read professional literature and learn together, so they have created their own mini conferences. A lot of this is done after school hours or on weekends. It shows teachers are really dedicated to their own learning.

Ms. Morris said a new idea that Onslow County is looking at is the idea of having a themed school, one that is focused on a common goal or idea where all the stakeholders in the school are working towards a common goal. For example, the elementary school where she teaches in Swansboro, is a design thinking school. She said they had the Henry Ford Learning Institute from Detroit, Michigan, train some of their teachers and then representatives from Detroit came to the school to train the teachers on providing design thinking challenges to the students. In these challenges the students had to collaborate and work together to develop prototypes and present them to a group of users for feedback.

Ms. Morris said that global education is a big buzz word, and there are a lot of exciting things going on in global education. Her father was in the Navy for 33 years, and she lived overseas in her fifth and sixth grades. She said she took Italian and learned words in class, but that's not where she really learned Italian. She learned it in the neighborhood with her friends and on the soccer field. She said they were starting to see those types of experiences in the classroom. Elementary schools in her county are implementing SPLASH. This is their second year of Spanish immersion kindergarten classes. Since it is the second year, they also have Spanish in first-grade classes. She said it is exciting to see young students become bilingual through the public school system.

She said they have 33 VIF (visiting international faculty) in Onslow County. One school has a teacher from another country on every grade level, so when teachers plan together they are bringing in a global perspective that is passed on to the students.

Ms. Morris said global partnerships are also important innovations in her area. The Dixon District in Onslow County is partnered with China, and the Jacksonville Commons area is partnered with Belize. She said five teachers traveled to Belize last week to learn about their schools, and there are teacher partnerships also planned for Japan and Finland.

Ms. Morris gave an example that she felt illustrated impediments to innovation. She said in their first design thinking challenge for fifth graders, the challenge was to encourage more community members to participate in the schools. Community members came in, and students interviewed them and created ideas for getting the community more involved in the school. Then those same people came in and provided feedback to the students once they provided their ideas. But the students wanted to know if they would be graded on that and felt intimidated, and the teachers felt the same way. She said teachers feel that they are not being graded on how engaged their students are or how innovative their practices are in the classroom; they are evaluated or graded on their test scores. She said there is a culture of fear in the North Carolina schools that if students don't know all the academic vocabulary in order to pass standardized tests, then teachers are not successful. For example, she said that kindergartners involved in the SPLASH Program last year had not mastered the benchmark knowledge of sight words at the end of the year, and so they were labeled as below grade level. Yet, those children were learning two languages in school. Now those same children are in first grade this year, and they know those sight words and some in Spanish too; it just took a little more time. She said that when they have innovative programs like this, there needs to be some sort of understanding with the benchmarks they are creating for the students.

Ms. Morris said teacher morale is low. She posed a question to committee members: If you knew that many, many people had come together to help you, whether teachers at your own school or teachers from across the county, and then you were selected as one of the top twenty-five percent at your school and were offered a raise, but all these other people who worked and collaborated with you were not offered that raise, would you take it? She said not one single teacher can say that he or she has done anything alone. Collaboration is truly the key to innovation in Ms. Morris' opinion.

Thomas McGeachy said he represented Region 3. He teaches Army Junior ROTC at Weldon High School in the Weldon City Schools District in Halifax County. He spent twenty years in the military, and his undergraduate degree is from Old Dominion University. He has a master's degree from Troy University, and he is currently earning a master's in school administration. He entered the teaching profession in 2007 after 20 years on active duty.

Mr. McGeachy said he agreed with Ms. Morris that teacher collaboration is important in terms of innovations and investment. He said his school district would be a case in point for that.

He said he services a high-poverty school district where most students do not have computers at home or access to computers. He said his school, Weldon High School, is currently part of the New Schools Project. It was previously a STEM school but recently received admittance to the New Schools Project for the remainder of this school year, and they hope to achieve re-admittance for the 2014-15 school year. New Schools Project has a vision of every student graduating ready for college, career, and life. He said that many of the technological innovations he has used or seen used by his colleagues are geared toward achieving that end. As an example, he said teachers are leveraging technology to expose students to virtual lab experiments in their science classes. They are also using WebQuest to challenge students to use higher order thinking skills in their LEA classrooms. Also, QVC codes are being used in their student training centers where students are allowed to use their smartphones to read the QVC codes, or they use I-pads provided to them by the teachers because in his school they do not have a one-to-one initiative.

Mr. McGeachy said that global awareness is enhanced in their classrooms through services such as CNN Student News. He said he uses that program every morning in his JRROTC because one of the things they have to do in Common Core is make students globally aware. He said this is challenging in his school because of bandwidth restrictions. It takes about 20 minutes to get through a 10-minute video presentation.

Mr. McGeachy said another innovation is flipping the classroom. This is an opportunity for students to gain knowledge about new content while they are at home. But, again, most of Mr. McGeachy's students do not have access to computers, so he has to modify that approach and provide the access within his classroom.

Mr. McGeachy said an impediment he has arises because he does not have one-to-one initiative and cannot, therefore, leverage the same opportunities that some other school district can. He works with his colleagues collaboratively, however, to come up with solutions to mitigate that shortfall.

Another impediment is that today's technology is already outdated. He said as he spent 20 years in the military, one of the strengths this country has is that we always train our personnel. He believes that same approach should be applied to teaching. He said the budgets have been cut for instructional spending, so as teachers try to service their students with the most technological innovations, they are shortchanged in training. He said teachers are where the rubber meets the road, and they are going to continue to need those professional development opportunities.

Shannon Godfrey said she represented Region 4. She teaches Social Studies, American History I, and AP US History in Harnett County at Harnett Central High School. She got her undergraduate degree at UNC-Chapel Hill in History and then got her master's degree of arts and teaching at UNC-Chapel Hill as well. She has been teaching for 11 years.

Ms. Godfrey said she Harnett County has a very rural high school with about 1,450 students, and over half are on free and reduced lunch. She said they have a lot of challenges, but their running theme is that there are wonderful things happening in school districts everywhere despite the challenges.

Ms. Godfrey said that at Harnett Central they have instituted Power Block where they have revised the lunch and class schedules to add an extra 80 minutes per day divided into two, forty-minute blocks. In the first forty minutes, half goes to lunch and the other half participates in Power Block activities. All courses are assigned tutorial days so students are given at least one tutoring session per week. Mandates are that students who have below a 77 average in a non-EOC course or an 81 average in an EOC course, must go to tutorial. Those students whose grades are above, can attend optionally, or they have other opportunities such as study hall, club meetings or intramural sports, which are basically opportunities to become well-rounded students. Ms. Godfrey said this allows students who need assistance in a subject matter to receive it without having the added and sometimes impossible burden of transportation. She said it also gives time for specialized instruction and allows participation in clubs or afterschool sports that students otherwise couldn't take part in. Power Block helps students become well-rounded and community oriented. Teachers can join their professional learning teams to collaborate during this time also. She told of two students who came to every tutorial and were highly successful because they received that individual attention.

Ms. Godfrey said her school had a one-to-one initiative that offered teachers computers for their classroom, so they now have digital resources at their fingertips and are able to do things like use an app called School Connect where they push out important announcements to students.

Ms. Godfrey addressed impediments to innovation by saying they are hampered by lack of flexibility in scheduling. She said mandates on start and stop dates meant they are not able to give exams prior to winter break, which is problematic. She also said professional development days have been taken away over the years, so they are not trained to use the technology like they should be. She feels standardized tests are also an impediment.

Karyn Dickerson represents Region 5, and is the 2013-2014 NC Teacher of the Year. She said she is from Guilford County and teaches at Grimsley High School. She is in her eighth year of teaching; however, she is not in the classroom this year as she is travelling the state full-time advocating for public education and listening to teachers in our state as well. At Grimsley she taught all the grade levels in English, but most recently she taught English 10 Inclusion and IB English 11. Ms. Dickerson graduated from UNC-Chapel Hill with a degree in English and then went to the University of Glasgow in Scotland where she got her master's degree in Romanticism and the Forms of Modernity. She is a lateral entry teacher, so she had a slightly different route to being an educator in North Carolina.

Ms. Dickerson said she wanted to talk about creative scheduling and magnet schools. She said Guilford County has 47 magnets offering 54 different programs, which is a great way to offer choice tailoring to interests and needs. She said the magnets include a STEM aviation academy at Andrews, Spanish immersion, visual and performing arts schools, Montessori, global study schools, and IB programs like at Grimsley and other AP schools. Grimsley High School is actually a magnet school for Spanish immersion, and it is the only public high school in North Carolina that offers Hebrew. It also offers orchestra, IB programs and ROTC. Ms. Dickerson said that magnets allow for more diversity within schools because you get neighborhood students, but you also get students from other areas within Guilford County allowing a really nice mix.

Ms. Dickerson said one of her favorite magnets she visited as she traveled the state as Teacher of the Year is Balfour Academy in Hendersonville. She said it was traditionally an alternative school where students were sent when they were not successful anywhere else. In past three years they have turned the school around by offering magnet programs and partnering with Blue Ridge Community College. They are now bringing in students from regular high schools to what was once considered a remedial school. She said they now offer a fire fighting academy. They also offer mechatronics, which is a great way to teach about technology and robotics that students will need as they enter into the industrial workforce. Balfour offers automotive technology as well as a physical fitness and training programs sponsored by Ben Stiller, where students can work towards certification in becoming a personal trainer by the time they graduate. They can also leave with a firefighter license and become a firefighter upon graduation from this high school. Ms. Dickerson said Balfour's graduation rate has improved by about 20 percent in the past two years.

Another initiative is an early childhood program that offers teen mothers parenting classes. It is also offered to teen fathers who can work on achieving credits through Blue Ridge Community College to continue in a career in early childhood education. She said this is an example of meeting the needs of students to make them college and career ready, but it requires creative scheduling. Community colleges do not operate on the same semester system as public schools so this is a limitation. She said they also need more flexibility with their calendars. She said if they could finish their semesters before winter break, that would coincide more directly with community colleges and local university schedules, and they would be able to offer more of these magnet programs.

Ms. Dickerson said creative scheduling is also essential for collaboration among teachers. In her school they offer “Whirly Wednesday” one day a week where they have a later start for students who can go to tutoring, or it can be a professional learning community time for the teachers to meet. That time is invaluable to teachers especially as they try to offer authentic learning environments to their students.

Ms. Dickerson said finally that money is a limitation, if they are going to offer programs and find ways to create partnerships with businesses. Money is a problem for transportation because they may have to stop offering busing for magnets, which would limit diversity and growth.

She said standardized testing is not an authentic assessment for innovative solutions and opportunities. At the Emerging Issues Forum that she recently attended, they addressed standardized testing. In Finland there is no standardized testing until the age of 19 when students are graduating. They trust the educators and the schools to create their own assessments that meet the needs of their students based on the programs they are providing for them. She said we need to think about that here as well.

Jill Francis represented Region 8. She is a high school Biology and AP Environmental Science teacher in Rutherford County in the Western region of the state. She is in her 16th year of teaching. She received her undergraduate degree from Appalachian State and her master’s degree from East Carolina University completely on-line through distance education, and she said she has never even stepped foot on East Carolina’s campus.

Ms. Francis said most of her comments would be in reference to her being a high school biology teacher, so she would be speaking in the perspective of a science teacher. She said there are many innovative practices occurring in her district right now, and she thinks all of them can be traced back to the fact that her district’s leadership had the forethought and foresight three years ago to begin a one-to-one initiative in Rutherford County. She said they are in their third year of the Mac Book one-to-one laptop initiative in grades 6-12. The county’s economy had been primarily textile based; and with the loss of textile jobs a decade ago, the economy was ravished. The leaders knew students would have to be ready for a new economy, and technology was key. Now in grades k-12 every classroom in the district is equipped with a Promethean board which is an interactive light board, and every teacher has a Mac Book for personal use. In k-5 there are I-pad carts that teachers can use on a check-out basis, and there is a team of instructional technology facilitators to support teachers in integrating the technology in the early grades. In grades 6-12, every student has been issued a Mac Book that they can use at school and take home. There is a full-time instructional technology facilitator in every middle school and high school in the district.

Ms. Francis said that for her district, the limitations are not in the schools but rather in the homes. There is no Internet access in the majority of homes; therefore, teachers have to be flexible in how they assign work at home.

Ms. Francis said the technology facilitator team’s job is to provide the needed professional development. So over the past three years they have had intensive professional

development, but it has occurred during their planning period time. So most of the teachers in her district would say this was a hindrance because they need time to process the information that they are receiving and to reflect on how they can use these resources for innovative activities.

Ms. Francis said the focus in her county was clear, but the technology was not a substitute for what they had always been doing. The technology was a tool to transform their teaching. She said they use the Sammer model to assess where they are in the process of integrating technology, and their facilitators work with them to help move up the levels. The ultimate goal is to move away from a teacher-directed classroom of just delivering content to be tested by a standardized test to a classroom where students are engaged in the skills they are going to need like collaboration, communication, and critical thinking.

As a science teacher, Ms. Francis is able to use these online resources because her textbooks are outdated; and in order to function in today's society, students will need to be taught current content. Access to the Internet is critical because they can access real time data and research that's being done by universities. She said her students can go out to the creek on their campus and take real measurements of the water quality there and come back and post it on the Internet. She said they can have long-term studies of the factors in their own community. She said the physics teacher across the hall has acquired Lego Robotics through grant writing, and that has been integrated into her physics curriculum. And she uses an engineering cycle to incorporate the physics concepts along with the engineering process to actually understand physics. Enrollment in physics has increased from a nonexistent program to lots of students who would not normally access that higher-level class. The tension that they face is that there is a test at the end, and the teacher has fewer than 90 days to teach a curriculum that has exploded. The biology curriculum today is molecular based, DNA based, and inside the cell along with all the things we learned in high school. In addition to needing time to plan and think and reflect, Ms. Francis said teachers also need time to teach in an inquiry-based way rather than the traditional forms of stand and deliver.

Ms. Francis said she recently visited a school system in Texas where pathways are in place and students choose their majors as a freshman. She believes that when students have a goal and direct pathway to follow, they are going to be much more motivated and interested in the relevancy of high school courses.

Ms. Francis is a very big fan of the essential standards for biology that are extremely rigorous, and she feels confident that students who master them will be successful in college and science-based careers. But the problem is that not all her students have an interest in being a scientist or majoring in a biomedical future. She would like to look at pathways that would distinguish between what kind of biology or science or other curriculum a student needs if he is going to major in Biology versus what he would need based on what he is not going to major in. In a class for students who are not in a pathway for biology, they could focus on more real world skills like health issues, environmental issues, and bioethics issues versus someone who wants to major in a STEM-based career who would need the extremely rigorous standards in place now.

Chairman Horn thanked the teachers for sharing their views and challenges. He said the committee had heard 100 years plus of experience with not even a little loss of enthusiasm. He

expressed the committee's appreciation for their sharing of experiences, views, and challenges. He said committee was here to try to figure out how to work with them and reward, encourage, and keep them while helping them to grow personally and corporately. He opened the floor to questions from the members.

The chair recognized Superintendent Bulson. Mr. Bulson thanked the teachers for being superheroes and said their presentations were tremendous.

The chair recognized Representative Brandon who said he enjoyed all of the presentations. He told Ms. Dickerson that she made them proud in Guilford County.

Representative Brandon said he heard a lot of comments about time, and if they had more school year time he wondered if that would address the problems they have with needing more time. He asked what their thoughts were on having less summer time off.

Ms. Mills said that one of the ideas behind the need for time is the need for time to adjust and learn the new technology as well as time in the calendar year. She suggested that perhaps a moratorium on standardized tests would give them time to adjust and not be stressed with an end of grade exam or a Common Core Standard exam.

Ms. Morris said she didn't know a single teacher who doesn't work during the summer. She said the problem is the compensation. If they are going to work more days or have a longer school year, she said she didn't have a problem with it as long as they didn't get the same pay for more time.

Ms. Godfrey said she spent three weeks last summer developing curriculum for a new course that she was not paid for, but she did it because she wanted to be prepared. She said the issue with time and extending the school year is that they don't have any professional development days left because of restrictions on the calendar. If they want this development time, it has to be taken out of the classroom, which is defeating the purpose. She doesn't think teachers would mind working more as long as they are compensated for it because they are doing it anyway.

Ms. Dickerson said most teachers would be willing to be eleven or twelve-month employees and though time over the summer would help, it is important to have collaborative time during the school year. She said flexibility with the calendar would be helpful. When more workdays are scheduled within the school year, unless they are taken up with winter weather days, then teachers have more time to meet and collaborate.

Ms. Francis said it was important not to mandate something calendar-wise statewide but to leave flexibility under local control because it depends on the community where you live what will and will not work. She said giving back local control is the important part of the issue.

Mr. McGeachy said a lot of teachers in the summer, particularly in his area, volunteer to do boot camps to assist students. He wanted the committee to know that collaboration is not just something that occurs within their buildings. He said summers off is a myth.

Mr. Bulson said they have heard a lot about standardized testing and concerns with that. He said he agrees that our testing is more about scores than learning. He asked the teachers what type of assessment they saw as most valuable for promoting learning.

Ms. Morris said she teaches elementary school and believes it is different for every child and at every level. She said you have to trust the teachers and have them to be able to say, “Yes this student knows it, and this is how I know.” One group of students might be able to show what they know through a project. With other students it might be through a written paper. With another student it might be through a technology presentation. She said she knows that standardized tests have a point and that schools have to be accountable, but standardized testing should be a small piece of the pie.

Mr. McGeachy said he agreed with Ms. Morris. He said you need to look at students’ growth and focus on that. For students who come to high school reading on a 4th, 5th, or 6th-grade level, the expectation that they are going to achieve some magical score is far-fetched. But showing growth from day one when the student enters the classroom until he leaves is achievable. He said we should focus on growth in assessments.

Ms. Godfrey said they are using EVAAS data, a teacher evaluation instrument to measure growth, but they are measuring growth based on a multiple-choice test for the most part when all year long they have done innovative things in their classrooms to try to reach every single student. They are told as teachers to differentiate for their students to meet their needs yet the test they take at the end of the year is not differentiated. She feels they are letting the students down; they struggle on the tests because it’s not the way she taught it to them or in the format they understand. She said at some point we need to let the teachers to be professional.

Ms. Dickerson said that was a great point. She said it almost rewards teaching to the test as opposed to teaching content. She said that is the problem most teachers have with standardized tests. Her ideal assessment form would be one that allowed for choice as well as tested what students know as opposed to what they don’t know. As an IV teacher, she loves the IV model of assessment. She said there is not a multiple-choice question on the IV test. It is all based on essays, and her students can select based on the works they have read in class and which ones they feel most confident with. She said they write essays in her class that she gives them feedback on. They revise their rough draft as a final draft and submit that as a part of their score. And, they have a speaking component with a presentation that she assesses and then one that is recorded and externally assessed. The test assesses multiple measures of masteries, which really is a component of 21st Century learning. She said one test taken on one day does not really assess what a student knows, so we need multiple measures.

Ms. Godfrey said she forgot to mention one way you can assess teachers. She said DPI is piloting what is called an ASW (analysis of students work samples) Pilot. She said she as an AP US History teacher will be assessed that way, which is different from how a regular classroom teacher is assessed. She said she thought that was the way to go because she can show that growth, and she can use whatever kind of work samples she needs to use for those students to show that they did grow over time. She thinks that is a more reasonable assessment pursuit.

The chair recognized Representative Shepard for a question. He said he was told under the new proposal to increase the pay for new teachers that some teachers had been involved in some of those discussions. He said he has had some concern from some of his veteran teachers in that this was a building block approach. He said he wanted some opinions from the teacher panel on whether the pay plan was a good proposal or not, and whether some of them weighed in on it because he was told some of the teachers of the year weighed in on the proposal.

Mrs. Mills said she wanted to comment that with 44 years of experience she maxed out at year 30.

Chairman Horn said there is no question that teacher pay is one of the key subjects of the day. He said this is a process that will not stop at the end of this meeting or this year or this legislature or the next legislature. He said the key is for educators to talk to legislators and for legislators to talk to teachers regularly, not just once every so often. He said they needed to engage each other more directly, candidly, forthrightly, and regularly.

Chairman Horn said he greatly appreciated the teachers being present at the meeting and said if any of the members follow up with them he would appreciate their sharing those views with others. He said he would give each teacher an opportunity to make a concluding brief remark.

Ms. Francis said she wanted to say thanks for inviting them to share their views of what is going on in the classroom.

Ms. Dickerson said she wanted to emphasize that there are lots of innovative practices going on in North Carolina schools, and she invited committee members to visit schools.

Ms. Godfrey said there has to be a conversation, and it has to include both teachers and students.

Mr. McGeachy said the enthusiasm that teachers have in the classroom has not waned one bit, and he agreed that the lines of communication should remain open.

Ms. Morris asked that the members be given contact information for the teachers so they can communicate directly.

Ms. Mills said regardless of all the issues in education, teachers are still the backbone of our nation and our state.

Chairman Horn recognized Co-Chair Susan Martin for comments.

Chairman Martin thanked the teachers for coming and for what they do every day. She said it was very important to hear what would help them and what the General Assembly needs to change.

Chairman Horn said the next meeting would be held at the Northeast Regional School in Washington County on March 19, 2014.

The meeting was adjourned at 3:32.

Respectfully submitted:

Representative D. Craig Horn
Co-Chair

Margie Penven
Committee Assistant

Attachments:

- Exhibit 1: Visitor Registration Sheet
- Exhibit 2: Agenda
- Exhibit 3: PowerPoint Presentation: Innovation in North Carolina's Community Colleges
- Exhibit 4: PowerPoint Presentation: Preparing More, Higher Quality Teachers and School Leaders for NC Public Schools and UNC Teacher Quality Research, University of North Carolina

NOTE: All attachments can be found at the Committee's website:
<http://www.ncleg.net/gascripts/DocumentSites/browseDocSite.asp?nID=243>